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5.4 Cultural Resources

This section addresses the cultural resources within the Mojave Solar Project (MSP; also referred to as Project) and presents the Laws, Ordinances, Regulations, and Standards (LORS) related to the effects of project implementation on cultural resources. Cultural resources are defined as prehistoric and historic sites, districts, buildings, structures, and objects that have historical, architectural, archaeological, cultural, or scientific significance. This section covers the approximately 1,765 acres of the Project area, an additional 200-foot buffer for the survey of archaeological resources, and an additional 0.5-mile buffer for the assessment of historic architectural resources. This section also addresses potential impacts to significant cultural resources during construction and operation of the Project, and identifies measures to avoid, minimize, and mitigate identified significant impacts.

Cultural resources studies were conducted by qualified cultural resources professionals. Additional detail on the cultural resources surveys and evaluations, including personnel qualifications, can be found in the Cultural Resources Technical Report (EDAW 2009) provided in AFC Appendix D.

5.4.1 Laws, Ordinances, Regulations, and Standards

The MSP will comply with applicable Federal, State, and local LORS throughout Project construction and operation. Applicable LORS are summarized in Table 5.4-1 and briefly discussed below.

Table 5.4-1. LORS Applicable to Cultural Resources

Laws	Applicability	Where Discussed in AFC
Federal		
Antiquities Act of 1906, Title 16 United States Code, Sections 431–433	Federal legislation for protection of cultural resources on Federal land.	Section 5.4.1.1.1
National Historic Preservation Act (NHPA), Title 16 United States Code Section 470 et seq.	Establishes national policy of historic preservation; requires that Federal agencies consider significant cultural resources prior to undertakings.	Section 5.4.1.1.2
Archaeological Resources Protection Act of 1979, Title 16 United States Code Sections 470aa–470mm	Provides protection for archaeological resources on public lands and Indian lands.	Section 5.4.1.1.3

Laws	Applicability	Where Discussed in AFC
Executive Order 11593 of May 13, 1971, 36 Federal Register 8921	Provides for protection and enhancement of the cultural environment.	Section 5.4.1.1.4
Secretary of Interior's Standards for Archaeology and Historic Preservation 48 FR 44716-42	Establishes guidelines for technical reports and standards for evaluation for State Historic Preservation Officer.	Section 5.4.1.1.5
Federal Land Policy Management Act of 1976 Sections 1710 (a)(8) and 1740	Establishes that public lands be managed in a manner that will protect the quality of scientific, scenic, historical, and archeological values.	Section 5.4.1.1.6
Native American Graves Protection and Repatriation Act, Title 25 United States Code Sections 3001–3013	This law provides for ownership of Native American graves and grave goods on Federal lands.	Section 5.4.1.1.7
American Indian Religious Freedom Act, Title 42 United States Code Section 1996	This measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. Federal agencies issuing permits for the MSP would be required to comply with this Act if Native Americans identified issues regarding their right to exercise traditional religious practices.	Section 5.4.1.1.8
State		
California Environmental Quality Act (CEQA), Public Resources Code Section 21083.2	Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts.	Section 5.4.1.2.1
CEQA Guidelines, Title 14 California Code of Regulations Sections 15064.5, 10564.7, 105126.4(b)	Addresses reburial options for Native American remains and provides for treatment of archaeological discoveries. Encourages agencies to develop	Section 5.4.1.2.2

Laws	Applicability	Where Discussed in AFC
	thresholds of significance to determine the significance of environmental effects. Outlines mitigation measures related to impacts on historical resources.	
CEQA Guidelines, Title 14 California Code of Regulation Sections 15064.5 Appendix G Section V	Environmental checklist for identifying potential disturbances to cultural resources.	Section 5.4.1.2.3
Public Resources Code Sections 5024.1	Establishes the California Register of Historical Resources.	Section 5.4.1.2.4
Public Resources Code Section 5097.98	Discusses the procedures that need to be followed upon discovery of Native American remains. Mandates that it is policy of the State to repatriate Native American grave artifacts.	Section 5.4.1.2.5
AB 2641	Modifies the process that private land owners follow after discovering Native American human remains (set forth in California Public Resources Code 5097.98).	Section 5.4.1.2.6
Public Resources Code Section 5097.99, 5097.991	Establishes that removal of Native American grave artifacts or remains is a felony.	Section 5.4.1.2.7
Public Resources Code Section 21084.1	Provides a definition of historical resources and states that projects that cause a substantial adverse change in the significance of an historical resource are projects that may have a significant effect on the environment. Historical resources not listed on CRHR or other local list may still be considered historical resources at the discretion of the lead agency	Section 5.4.1.2.8

Laws	Applicability	Where Discussed in AFC
	on the project.	
Health and Safety Code Section 7050.5	Establishes procedures for notification in the event of the discovery of human remains. Requires construction to be halted and the County Coroner to be contacted if human remains are encountered. Makes it a misdemeanor to disturb or remove human remains found outside a cemetery.	Section 5.4.1.2.9
Health and Safety Code Sections 8010-8011	Provide consistent State policy to ensure that all California Indian remains are treated with dignity and respect. Extends policy to non-federally recognizes tribes, as well as recognized groups.	Section 5.4.1.2.10
Local		
San Bernardino County General Plan, Section V.4 – Conservation Element	Provides that the County will preserve and promote its historic and prehistoric cultural heritage.	Section 5.4.1.3.1

5.4.1.1 Federal LORS

5.4.1.1.1 Antiquities Act of 1906, Title 16 United States Code Sections 431–433

This Act establishes criminal penalties for unauthorized destruction or appropriation of "any historic or prehistoric ruin or monument, or any object of antiquity" on Federal land.

5.4.1.1.2 National Historic Preservation Act, Title 16 United States Code Section 470 et seq.

The National Historic Preservation Act (NHPA) sets in place a program for the preservation of historic properties. Section 106 of the NHPA requires Federal agencies to take into account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places). It also gives the Advisory Council on Historic Preservation and State Historic Preservation Offices (SHPO) an opportunity to consult. Federal agencies issuing permits for the MSP would be required to comply with NHPA requirements.

5.4.1.1.3 Archaeological Resources Protection Act of 1979, Title 16 United States Code Section 470aa–470mm

This Act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

5.4.1.1.4 Executive Order 11593 of May 13, 1971, 36 Federal Register 8921

This Executive Order focuses on the protection and enhancement of the cultural environment. It outlines responsibilities of the Federal agencies and Secretary of the Interior with regard to cultural resources.

5.4.1.1.5 Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines 48 FR 44716–42

This document establishes standards and guidelines regarding professional qualification requirements for archaeological and historic preservation professionals, technical report format and content, and standards for resource evaluation required by the State Historic Preservation Officer.

5.4.1.1.6 Federal Land Policy Management Act of 1976 43 United States Code Section 1701 et seq.

The Federal Land Policy Management Act (FLPMA) declares that it is the policy of the United States that public lands be managed so as to protect historical and archaeological resources, and that the Secretary of Interior shall establish rules and regulations regarding resource protection on public lands.

5.4.1.1.7 Native American Graves Protection and Repatriation Act, Title 25 United States Code Sections 3001–3013

This law provides for ownership of Native American graves and grave goods on Federal lands.

5.4.1.1.8 American Indian Religious Freedom Act, Title 42 United States Code Section 1996

This measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. Federal agencies issuing permits for the MSP would be required to comply with this Act if Native Americans identified issues regarding their right to exercise traditional religious practices.

5.4.1.2 State LORS

5.4.1.2.1 California Environmental Quality Act (CEQA), Public Resources Code Section 21083.2

Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the project may have a significant effect on "unique" archaeological resources, an environmental impact report shall address these resources. A unique archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria: 1) Contains information needed to answer important research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest or best example of its type; or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures. CEC licensing is a CEQA-equivalent process.

5.4.1.2.2 CEQA Guidelines, California Code of Regulations Title 14 Section 15064.5

State CEQA Guidelines define a "historical resource" to include the following:

- Resource(s) listed or eligible for listing on the California Register of Historical Resources (CRHR) (14 California Code of Regulations [CCR] Section 15064.5(a)(1)); resource(s) either listed in the National Register of Historic Places or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5(a)(2)); resources identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code (14 CCR Section 15065.5(a)(2)). Subdivision (g) provides that:
    a) resource identified as significant in an historical survey may be listed in the CRHR if the survey meets all of the following criteria:
        1. The survey has been or will be included in the State Historic Resources Inventory.
        2. The survey and the survey documentation were prepared in accordance with…procedures and requirements [of the (California) Office of Historic Preservation].

3. The resource is evaluated and determined [by the Office of Historic Preservation] to have a significance rating of Category 1 to 5 on [the Department of Parks and Recreation Historic Resources Inventory Form].
4. If the survey is 5 years or more old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.

Resources identified by such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

- The final category of "historical resources" is discretionary with the lead agency:

  Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, education, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record (14 CCR Section 15064.5(a)(3)).

When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by NAHC (14 CCR Section 15064.5(d)).

5.4.1.2.3 CEQA Appendix G Section V

This appendix is a checklist that identifies potential impacts to historical, cultural, or paleontological resources. The checklist includes four questions to determine if a potential project would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d. Disturb any human remains, including those interred outside of formal cemeteries?

Questions on the checklist are asked to assess if project impacts would be potentially significant, less than significant with mitigation, less than significant, or have no impact. The final determination of project impacts is made by the lead agency on the project.

5.4.1.2.4 Public Resources Code Section 5024.1

This section establishes the California Register of Historical Resources (CRHR). A resource may be listed as a historical resource in the CRHR if it meets National Register of Historic Places criteria or the following State criteria: 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; 2) is associated with the lives of persons important in our past; 3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or 4) has yielded, or may be likely to yield, information important in prehistory or history.

5.4.1.2.5 Public Resources Code Section 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. NAHC, upon notification of the discovery of human remains by the coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods.

5.4.1.2.6 AB 2641

This section provides procedures for private land owners to follow upon discovering Native American human remains. Land owners are encouraged to consider culturally appropriate measures if they discover Native American human remains as set forth in California Public Resources Code Section 5097.98. AB 2641 further clarifies how the land owner should protect the site both immediately after discovery and into the future.

5.4.1.2.7 Public Resources Code Sections 5097.99, 5097.991

These sections establish that it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. They also mandate that it is the policy of the State to repatriate Native American remains and associated grave goods.

5.4.1.2.8 Public Resources Code Section 21084.1

This section sets forth that a project that may cause a significant adverse change in a significant historical resource is a project that may be considered to have adverse effects on the environment. Historical resources not listed in the CRHR or other local lists may still be considered historical resources at the discretion of the lead agency on the project.

5.4.1.2.9 Health and Safety Code Section 7050.5

This code establishes that any person who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of the law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American remains.

5.4.1.2.10 Health and Safety Code Sections 8010–8011

This code is intended to provide consistent State policy to ensure that all California Indian human remains and cultural materials are treated with dignity and respect. The code extends policy coverage to non-federally recognized tribes, as well as federally recognized groups.

5.4.1.3 Local LORS

5.4.1.3.1 San Bernardino County General Plan, Section V.C.2 Policies CO 3.1-5

Section V of the County of San Bernardino General Plan provides a goal of preserving and promoting its historic and prehistoric cultural heritage. It outlines five policies regarding cultural resources (CO 3.1-5). These include identifying and protecting important resources in areas that have known cultural resource sensitivity and in areas of previously undisturbed ground; establishing programs to preserve the information and value of cultural resources; consulting with tribes as identified by the California Native American Heritage Commission in compliance with California Senate Bill (SB) 18; and ensuring that cultural resources associated with Native American beliefs and traditions be avoided or minimized.

5.4.1.3.2 Involved Agencies

As indicated in Table 5.4-2, NAHC was contacted regarding a check of its sacred sites inventory and to acquire a list of Native American contacts for the area. No sacred sites were identified. Contact information was provided for a list of tribal representatives, and contact was initiated with these representatives. For more information regarding Native American consultation, see Section 5.4.2.6 below.

Table 5.4-2. Agency Contacts

Agency Contact	Phone/E-mail	Permit/Issue
Native American Heritage Commission	(916) 653-4082 nahc@pacbell.net	Native American cultural issues
Bureau of Land Management	Jim Shearer Barstow Field Office 2601 Barstow Rd. Barstow, CA 92311	Fieldwork Authorization and coordination of fieldwork on BLM lands

5.4.1.4 Permits Required and Permit Schedule

Portions of the cultural resources survey buffers are public lands managed by the Bureau of Land Management (BLM). BLM requires a California Cultural Use Permit to conduct cultural resources field investigations on BLM land, and a BLM Fieldwork Authorization must be approved prior to fieldwork. A Fieldwork Authorization (Request No. FA-680-09-26) was obtained on June 18, 2009, from the BLM Barstow Field Office. The survey areas that are located on BLM lands were surveyed according to BLM requirements.

5.4.2 Affected Environment

5.4.2.1 Natural Environment

The Project area is located in San Bernardino County, west of Barstow and Harper Dry Lake, in the western portion of the Mojave Desert. The Mojave Desert is the southwestern-most extension of the physiographic Great Basin and forms part of the larger Basin and Range province, which extends south to include the Sonoran and Chihuahuan deserts of Arizona and Mexico. As such, it is characterized by isolated mountain ranges and internally drained basins. The geological boundaries of the western Mojave Desert generally follow the Garlock fault to the north and the San Andreas Fault to the south. Within the Project area, the geological makeup includes granite and metavolcanic rocks, namely rhyolite (Jennings 1977). The natural environment of the Mojave Desert consists of high peaks and low valleys and basins. Elevations are high enough for annual snowfall. The biotic environment is classified as warm-temperate desertland, and Mohave desertscrub (Brown 1994). The most common vegetation communities present in the region are Joshua tree woodland (*Yucca brevifolia*) and creosote bush scrub (*Larrea tridentata*), as well as shadscale scrub and alkali sink (Schoenherr 1992; Brown 1994). Vegetation in the Project area is dominated by saltbush.

Within the project boundary, there are alluvium, lake, playa, and terrace deposits. The Project area is in proximity to Harper Dry Lake. The once pluvial lake, which is now a playa, formed during the Pleistocene (Cox et al. 2003; Grayson 1993; Snyder et al. 1964 *in* Apple 1993), and eventually drained internally. During the Pleistocene, lower temperatures and greater annual precipitation levels resulted in pluvial lakes throughout the Great Basin (Grayson 1993). Current evidence suggests that Harper Lake served as the terminal lake of

the ancestral Mojave River prior to 500,000 years ago and that it continued to receive periodic inflow from the Mojave River system after the river cut further eastward into the Manix basin. Relict shorelines of at least two late Pleistocene deep water lakes have been documented in the Harper Lake basin, most recently about 25,000 years before present (B.P.) (Cox et al. 2003). It is possible that shallower lakes formed periodically thereafter during major flood events. The last glacial maximum occurred about 18,000 B.P. and deglacial climatic change occurred by 14,000 B.P. (Koehler et al. 2005). Studies of ancient packrat middens in the eastern Mojave Desert demonstrate that the vegetation changes during the Late Holocene are indicative of much cooler and wetter conditions than today (Koehler et al. 2005). The final desiccation of another dry lake in the area, Lake Mojave, occurred between approximately 8,350 ± 300 and 9,160 ± 400 B.P. (Wallace 1978). Today, the southern coast of the lakebed contains protected marshlands (Bureau of Land Management n.d.). The last wet sections of the lake dried up in the 1990s when a main source of water (nearby alfalfa farming) closed down (Donovan 2003). Due to its dry state, there is currently no interaction with other lakes in the area.

The groundwater hydrology of the region is dominated by subsurface flow from the Calico Mountains to the east and the Granite Mountains to the north. The distribution of shallow bedrock, impermeable sediments such as lacustrine clays, and fault zones strongly affects the course of that flow. Recharge to the local aquifers is exclusively dependent on winter precipitation and comes from winter rains and spring snowmelt. Surface runoff from the mountains is minimal once the highland drainages reach the highly permeable alluvium of the upper bajada, and ground water recharge occurs as this runoff percolates into the valley fill (York et al. 1995).

There are no perennial streams in the Mojave Desert west of the Colorado River and east of the Transverse Ranges. However, the headwaters of the Mojave River lie in the San Bernardino Mountains, which are approximately 30 miles away from the Project area. The Mojave River, located approximately 12 miles from the project boundary, is the primary water body in the area. Shallow ground water and scattered artesian springs were more common prior to the advent of Euroamerican land use practices and may have offered water sources in the vicinity of Harper Dry Lake.

There are a variety of lithic resources near the Project area. Approximately 5 miles southeast of the eastern extent of the Specific Plan area is the nearest outcrop of Mesozoic lithic material, including granite and quartz (Jennings 1977). The closest source of marine sedimentary lithic material is approximately 3 miles northwest of the western extent of the Project area. This Paleozoic outcrop includes conglomerate, shale, limestone, dolomite, marble, gneiss, hornfells, and quartzite (Jennings 1977).

For more detailed information regarding the natural setting, refer to AFC Section 5.3 Biological Resources.

5.4.2.2 Prehistoric Background

Prehistoric human settlement patterns in the Mojave Desert have been influenced by environmental change. Major climatic periods influenced prehistoric spatial settlement patterns and resource exploitation. In the late Pleistocene (circa 18,000 to 10,000 years ago), conditions in the Mojave Desert were relatively cool and wet, and although variable, the early Holocene (circa 10,000 to 7,500 years ago) remained generally cooler and moister

than today. The middle Holocene (circa 7,500 to 4,000 years ago) saw a much warmer and drier climate than that of modern times, and the climate became moderately cooler and wetter during the late Holocene (circa 4,000 to present), with punctuated periods of drought (Sutton et al. 2007).

Chronologies for the Mojave Desert have been proposed by a number of researchers (Basgall 2000; Bettinger and Taylor 1974; Lanning 1963; Rogers 1939; Sutton 1996; Wallace 1962, 1977; Warren 1980, 1984; Warren and Crabtree 1986; Sutton et al. 2007). There continues to be considerable discussion about each of these chronologies and the dates assigned to the various stages. The Warren and Crabtree (1986) chronology has been one of the more commonly used sequences in the recent archaeological literature. The more recent Sutton (1996, Sutton et al. 2007) revised Warren and Crabtree (1986) in minor respects, adding a Paleoindian period (12,000 to 10,000 B.P.) by reducing the length of the Lake Mojave period; he renamed the Saratoga Springs period the Rose Spring period and shortened it by 250 years, thus expanding the succeeding Late Prehistoric period. None of the recent chronologies, however, differ in critically significant respects from the Warren and Crabtree (1986) chronology, which forms the basis for the following summary.

Lake Mojave (circa 12,000–7000 B.P.)

The Lake Mojave period is considered to be one of extreme environmental change, where the relatively cool and moist conditions of the terminal Wisconsin geological period changed to the drier and warmer climate of the Holocene. The artifact assemblages considered typical of the period include fluted points, leaf-shaped points, and long-stemmed, narrow-shouldered points of the Lake Mojave series, as well as crescents, abundant bifaces, and various large, well-made scrapers, and other flake tools. York (1995) states that the use of obsidian is relatively common, with the majority of the material derived from the Coso source. Basgall and Hall (1992) indicate that there is an apparent preference for using cryptocrystalline silicate for flake tools and basalt for bifaces at Fort Irwin. Apple and York (1993) found the same phenomena at Silver Lake. Milling equipment is rarely found at Lake Mojave sites.

From the available evidence, it appears that Lake Mojave period groups had settlement patterns focused on pluvial lake shorelines (Hester 1973; Warren 1990; Willig 1988; York 1995). Tool assemblages are consistent with a subsistence system based on hunting, particularly of large game (Cleland and Spaulding 1992; Kelly and Todd 1988; Warren 1986), but not exclusive of other smaller mammals and reptiles (Basgall 1990; Simms 1988; Warren 1990; Willig and Aikens 1988; York 1995).

Pinto Period (circa 7000–4000 B.P.)

Climatic change to increasingly arid conditions occurred during the middle Holocene, and Warren (1984) sees this as the beginning of cultural adaption to extreme desert conditions. There is an ongoing debate on whether the central Mojave was abandoned at this time (Donnan 1964; Kowta 1969; Wallace 1962) or whether occupation continued (Jenkins 1987; Jenkins and Warren 1984; Susia 1964; Sutton 1996; Tuohy 1974; Warren 1984) but with changes in population density, subsistence practices, and technology (Warren 1986). The artifact assemblages associated with this period include Pinto points; heavy-keeled scrapers; choppers; small, flat milling stones; and manos (Warren 1986). Warren (1986) postulates that the Pinto culture evolved from the hunting complex of the Late Mojave period representing "a small population dependent upon hunting and gathering, but

lacking a well-developed milling technology." He also suggests that the population moved to the desert margins and oasis sites such as water holes, springs, and streams where the occupations tended to be temporary and seasonal.

Gypsum Period (circa 4000–1500 B.P.)

The Gypsum period generally corresponds to the onset of late Holocene neoglacial cooling, sometimes referred to as the Little Pluvial. In the Mojave, this was a time of increased effective moisture and was marked by a significant increase in the occupation of the area, especially new streams (Elston 1982; Sutton 1996). The artifact assemblage diversified, including several projectile point types (Elko Eared and Corner-notched, Gypsum Cave and Humboldt Concave Base), increased use of manos and metates, and the introduction of new technologies such as the mortar and pestle and the bow and arrow. In addition, evidence of contact with other cultural areas, such as the California coast, is indicated by *Haliotis* and *Olivella* shell beads (Warren 1986). Warren (1984) also suggests that mesquite processing was first exploited during this period and that the greater productivity of this period, coupled with the refinement of hunting and seed processing technologies, increased the ability of the region to support increased population growth (Warren 1986).

Saratoga Springs Period (circa 1500–750 B.P.)

The Saratoga Springs period is one of strong regional developments according to Warren (1986), including the Northwestern Mojave, the Eastern Mojave, and the Southern Mojave. The artifactual assemblage is characterized by Eastgate and Rose Spring projectile points in the northwestern and northeastern areas. To the south, along the tributaries of the Colorado River, Anasazi influence is seen in Cottonwood and Desert side-notched projectile points and the introduction of paddle-and-anvil brown and buff ceramics (Lyneis 1989). Subsistence appears to rely more heavily on small fauna such as rabbit and tortoise and less on deer (Warren 1986). There is an intensified use of vegetal resources, as evidenced by the high frequencies of ground and battered stone, and larger numbers of nonportable, expedient milling slabs and utilized handstones contained in the milling assemblages (Basgall and Hall 1992).

Late Prehistoric Period (circa 750–200 B.P.)

It has been suggested that Numic-speaking Paiute and Shoshone groups entered and occupied the area at this time (Bettinger and Baumhoff 1982; Fowler 1972; Miller 1986; Warren and Crabtree 1986), based on a widely distributed artifact assemblage that included Desert Side-notched points and brownware ceramics, as well as linguistic evidence.

5.4.2.3 Ethnographic Background

Ethnographic evidence suggests that the Vanyume, a subgroup of the Serrano Indians (Hopa 1980; Macko et al. 1993), were the prehistoric occupants of the region. By 1900, the group was largely extinct as a result of pressures from the Euroamerican settlement. As early as 1776, Father Francisco Garcés found several small villages of Vanyume along the Mojave River. Three miles west of Afton Canyon he found a village of 25, and a few days later, near Barstow, his party was fed rabbits and acorn mush in a village of 40 people. He also found villages of Vanyume near present-day Helendale, and 15 miles farther, another village of 70 people. As he continued west, he encountered a small settlement of five huts

and a village of 80 people (Black 1986). Although little is known of the Vanyume (Bean and Smith 1978; Strong 1929), it is believed that they primarily occupied the areas around the Mojave River where water and plant resources were available.

In addition to the Vanyume, this portion of the Mojave Desert was visited by members of several native groups. As Earle (2003) discusses in his study of native use and occupation of the Fort Irwin area, the Central Mojave Desert was reportedly exploited by people from a number of groups, including the Chemehuevi/Southern Paiute, Mohave, and perhaps the Desert Kawaiisu.

5.4.2.4 Historical Background

Regional History

As early as the 1770s, when the Spanish explorers came through the area utilizing existing Native American trails, the region began to play a large role in the development of a western transportation corridor. Virtually everyone who wished to travel into or out of southern California passed through the Barstow area. This travel route remained a major link between Los Angeles and points east until the railroad arrived in the desert in the 1880s.

Development in the area was directly connected to the arrival and growth of the railway lines. Southern Pacific Railroad tracks reached Waterman Junction (later named Barstow) in 1882. Southern Pacific selected Calico Junction (now known as Daggett) for its depot, telegraph office, and eating establishment (Moon 1980). The arrival of the Southern Pacific Railroad contributed to a growing number of miners, merchants, and professionals in the area (Keeling 1976). In addition, the discovery of silver and borax in the Calico mines drove the construction of branch railroads.

As the influence of the railroad declined, Route 66, which runs through downtown Barstow, brought visitors to the area via automobile. The popularity of the automobile and the construction of the Interstate Highway System contributed to the growth of the area, and transformed Barstow into a transportation hub.

History of the Project Area

San Bernardino County surveyors measured the section lines of the rectangular grid system for the Harper Lake area in 1856. At that time, there were no land improvements in the area. In 1872, C.S. Black established a cattle ranch just east of Harper Lake. Black built an adobe house, and the Black Ranch was the only settlement within the Harper Lake Valley for decades. The west side of Harper Lake was not settled until the early part of the 20th century. The first homesteaders on the west side were Henry and Emma Spenker, who arrived in 1911 and filed for a homestead patent on the southwest quarter of Section 28 (Township 11 North, Range 4 West). The Spenkers hoped to create a small farming community based on irrigation. Spenker maintained an alfalfa ranch by creating irrigation ditches and building an irrigation reservoir. The Spenkers also planted orchards and raised chickens and turkeys (Swanson 1988).

Eleven additional homestead patents were issued by BLM between 1921 and 1929. A patent for the southern half of Section 30 (Township 11 North, Range 4 West) was awarded in 1921 to James M. Maclachlan, who in turn sold portions to William A. and Elsie Davis and James T. Weatherald (Hampson 1990). The Davis and Weatherald families

constructed homesteads on this land. In 1921, a two-room school was constructed from the lumber of an abandoned homestead. This building was also used as a community center and a church (Swanson 1988). Although BLM listed all homesteaders as residents of Hinkley, local residents considered themselves a separate community. Underground water was most accessible at lower elevations near the lake bed. Each homestead installed its own well, and irrigation ditches were constructed to permit year-round farming. However, many homesteaders were not permanent residents.

In 1925, business partners Victor York and L.M. (Lester) Lockhart obtained a desert land entry patent to the north half of Section 24 (Township 11 North, Range 4 West) (Hampson 1990). This area became the core of the York Ranch, with the York house and reservoir located on this land. York served as president of the York-Smullin Oil Company that operated the ranch, and Lockhart served as the secretary. The York Ranch used diesel pumps and deep wells for flood irrigation. Likewise, the Evans Ranch, established by Hugh Evans in 1930, developed an extensive irrigation system. Evans had obtained the former Davis property and established a ranch and alfalfa farm that included his residence and several new buildings. Evans constructed a water tower, reservoir, two hay sheds, and a horse barn. Together, the enterprises of the Lockhart and Evans ranches dominated the area, eventually edging out smaller farms, including the Spenker farm. By the end of the 1930s, alfalfa in the area was only grown on the York and Evans ranches.

During Prohibition in the early 1930s, the York Ranch became a local center of moonshining until it was raided in 1932. The property then changed ownership several times until it reverted to the sole ownership of L.M. Lockhart in 1937. Three years later, Lockhart also acquired the Evans Ranch, giving Lockhart the vast majority of land holdings in the community. Lockhart's influence was widespread, and the community began to be known as Lockhart. Lockhart's land holdings increased in the early 1940s. However, he sold the York Ranch and made an effort to sell the Evans Ranch (Hampson 1990).

The introduction of electricity into the valley after World War II had a tremendous impact on ranching and farming activities. The first California Electric substation was constructed in Harper Lake in 1947. Once electricity was available, the area developed as more settlers arrived. Among those to arrive, the Most family purchased the York Ranch in 1946 and lived in the old York house until 1955 when the family sold the property back to Lockhart. With this purchase, Lockhart again owned the largest cattle ranch and farm complex in the area. In 1949, Lockhart invested the money from the sale of an oil company into expanding and improving the cattle ranch. By 1951, it was one of the largest farming industries in the Mojave Desert (Hampson 1990).

Lockhart Ranch was projected to have the potential to accommodate up to 5,000 cattle, and six sub-industries including alfalfa farming, a mixing plant, a dehydrator, a general store, a poultry ranch, and a hog farm. Only three of these industries came to fruition, as the failure of the dehydrator did not allow for the establishment of a poultry or hog farm (Hampson 1990). In 1951, the ranch had seven wells and a large flood irrigation system, and plans for installing seven additional wells. In 1953, with the opening of the General Merchandise Store, Lockhart became a destination. The building cost $365,000 to construct and was one of the largest buildings in the valley (Hampson 1990). Visitors came from places as far away as China Lake to shop and buy prize cuts of meat. Though Lockhart became more visible, the community remained a small enclave of approximately 200 people, most of whom worked for the Lockhart Ranch. The social life of the ranch

revolved around the Lockhart family. L.M. Lockhart almost always traveled by plane; he owned a DC-3 and a twin Beech (Hampson 1990). The Howard Hughes airstrip located on the dry lake bed provided access to and from the community. The decline of Lockhart Ranch in the late 1950s can be attributed to several factors, including the fact that the ranch never really returned a profit (Hampson 1990). Other factors included Lockhart's divorce settlement from his second wife, a number of bad oil investments, the failure of the dehydrator to function properly, and the fact that the ranch was overstaffed. Lockhart parted with the ranch in 1958.

Boys Town International, a corporation operated by Arnold J. and Willie Mae Dittmar, briefly owned the ranch. The Dittmars ran the ranch in the same manner as Lockhart, though there were rumors they were going to convert it to a boys' ranch. However, they sold off all the movable goods acquired by Lockhart. When the Dittmars failed to pay Lockhart, the ranch reverted back to him. Lockhart in turn sold the ranch to the Orita Land and Cattle Company in 1962 (Hampson 1990).

Milton Most managed the ranch for the Orita Land and Cattle Company and lived in Lockhart's large ranch house from 1963 to 1972. Most made some changes to the ranch, tearing down unnecessary structures, including the dehydrator and 16 houses for married employees (Hampson 1990). The mill complex was abandoned, and only a minimal crew worked the ranch. Most also introduced the pivot system of irrigation, which allowed the watering of nearly an entire quarter section from one horizontal pipe revolving in a circular motion from a center point in the field. The use of the pivot irrigation system reduced the need for employees and also deemphasized cattle ranching. The Orita Land and Cattle Company operation reached its peak in the late 1960s and early 1970s, with a total of 2,800 acres farmed with 22 employees (Hampson 1990). It was a much more successful operation than the Lockhart operation. There were only 500 to 600 cattle on the ranch during this period (Hampson 1990). In 1977, the Orita Land and Cattle Company sold the ranch to Al Cotton. Cotton went bankrupt and, in 1979, Milton Most purchased the ranch.

With that purchase, Most obtained the area south of Hoffman Road, which separates Sections 19 and 30 (Hampson 1990). This ranch was approximately 1,650 acres. Most continued to farm alfalfa with the pivot irrigation system, but he only raised cattle in the winter months. Alfalfa grown on the farm was sold on the open market. Most constructed the airplane hangar on the complex, but otherwise he left the buildings that were present during Lockhart's tenure. In 1986, surveyors updating the U.S. Geological Survey (USGS) quadrangle map offered to change the name of the community to Most, as he had been associated with the ranch for so long. Most declined, and the area is still known as Lockhart (Hampson 1990).

In June 1988, Luz Development and Finance Corporation purchased most of the ranch (Hampson 1990). The ranch was leased back to Most until the early 1990s. Luz installed solar energy panels within Sections 19 and 24 on the old ranch land. The remainder of the old ranch and the Project area changed hands before it was purchased by Abengoa Solar, Inc. in 2008 with the intent of installing more solar energy panels in the MSP. Since the 1990s, the former York, Lockhart, and Most properties, as well as smaller farmsteads and associated buildings in the Project area, have been abandoned and have rapidly deteriorated. Currently, there are no ranching or residential activities in the Project area. The northwest ¼ of Section 32 continues to be farmed, and is the only agricultural activity within the Project area.

5.4.2.5 Cultural Resources Inventory

A cultural resources inventory was conducted of the entire Project area. This inventory included archival research, a pedestrian archaeological survey including a 200-foot buffer, and a historic architecture field survey including a 0.5-mile buffer. The results of the inventory are presented in the following subsections; additional detail is provided in the Cultural Resources Technical Report provided in Appendix D.

Archival Research

Records searches were conducted at the San Bernardino Archaeological Information Center (SBAIC), San Bernardino County Museum, Redlands, California. A records search of an area encompassing the current Project area was conducted in 2006. The search reviewed previously conducted cultural resources studies, site records, historical information, and maps on file at SBAIC. An updated records search was conducted in 2009 for the current Project area and a 1-mile radius. The 2009 records search found no new entries on file at SBAIC.

The SBAIC files contained 15 previous studies that investigated cultural resources within the Project area and 1-mile buffer (Table 5.4-3). Of the 15 studies, seven (1061803, 1061827, 1061842, 1061910, 1062075, 1062099, and 106070) investigated some portion of the Project area for a comprehensive survey of the entire Project area. Greenwood and Associates (Goodman [1988], Swanson [1988], Hampson [1988 and 1990], Hampson and Swanson [1989], and Hampson and Skinner [1990]) conducted cultural resources assessments for a proposed solar plant with survey boundaries that encompassed the Project area and provided a comprehensive history of the development of the Harper Lake community. These studies documented the majority of previously recorded cultural resources identified in the current study's Project area and survey buffers.

Table 5.4-3. Summary of Previous Cultural Resources Studies within One Mile of the Project Area

Report Number	Author(s) (Date)	Title
1060125	Southern California Edison (1972)	Environmental Report: Coolwater-Kramer 220 KV Transmission Line. San Bernardino County Museum Association.
1060422	Hearn and Burgess (1976)	Archaeological – Historical Resources Assessment of Section 25, T11N R5W, Fremont Peak Quadrangle, USGS. San Bernardino County Museum Association.
1060775	Sutton (1979)	Cultural Resource Clearance of Oil and Gas Lease Application. San Bernardino County Museum Association.
1061479	Dames and Moore (1985)	Mead/McCullough-Victorville/Adelanto Transmission Project Technical Report: Volume IV, Cultural Resources.
1061748	Brown (1987)	Cultural Resource Assessment: Solar Energy Generating System (SEGS) VIII, Harper Lake, San Bernardino County, California.
1061803*	Goodman (1988)	Cultural Resource Assessment: Solar Energy Generating System (SEGS) Site, Pipeline, and Transmission Line, Harper Lake.
1061827*	Swanson (1988)	History of the Harper Lake Community.
1061842*	Hampson (1988)	Cultural Resource Investigation: Solar Energy Generating System (SEGS) VIII-XII, Harper Lake Area, San Bernardino County, California.
1061910*	Hampson and Swanson (1989)	Cultural Resource Investigation: Five Sections West of Harper Lake, San Bernardino County.
1061911	De Munck (1989)	Archaeological Survey of Gas Pipeline and Transmission Line, Harper Lake Area.
1062075*	Hampson and Skinner (1990)	Site Assessment and Recordation for Solar Energy Generating System (SEGS) IX and X, Harper Lake, San Bernardino County.
1062099*	Hampson	Cultural Resources Survey: Luz Solar Energy Generating System (SEGS) XI and XII, Harper Lake,

Report Number	Author(s) (Date)	Title
	(1990)	San Bernardino County.
1062211	Young (1990)	Archaeological Inventory of a 137.1 mi Long by 200 ft Wide (3316.9 AC) Segment of the Proposed Wycal Pipeline Corridor in San Bernardino County, California. Archaeological Research Services.
1063070*	York et al. (1995)	Class III Cultural Resources Inventory for Los Angeles Department of Water and Power Mead to Adelanto Transmission Line Project: Mt. General, Kramer, and Adelanto Divisions.
1063095	Whitley (1994)	Archaeological Survey, Los Angeles Regional Seismic Experiment, 1994 Route.

*Indicates studies conducted within the Project area.

The records search identified 30 cultural resources previously recorded within the records search area (Table 5.4-4). These include one prehistoric site, 13 historic refuse deposits, and 16 historic sites associated with farming or residential structures or complexes. With the exception of the prehistoric site, the historic resources date to the early to mid-20th century. The refuse deposits primarily contain domestic items, including canisters, bottles, and ceramics. Many of the historic sites had standing structures at the time they were recorded.

Table 5.4-4. Summary of Previously Recorded Cultural Resources within One Mile of the Project Area

Primary Number (P-36-)	Trinomial (CA-SBR-)	Site Type/Constituents	Time Period
000673	673H	Small historic domestic refuse deposit including crockery and glass canning containers, and cooking related extract bottles; burning evident	Mid-20th century
000677	677H	Scattered historic refuse deposit	Early to mid-20th century
000704	704H	Small historic refuse deposit	Early to mid-20th century
000705	705H	Small historic refuse deposit	Mid-20th century (circa 1920–1960)
000926	926H	Historic ranch house complex of Victor York, partner of L.M. Lockhart, including residence, several outbuildings, and a large concrete-lined reservoir	Early to mid-20th century (circa 1920–1960)
001025	1025H	Adobe structure for housing poultry (chickens/turkeys); two residential structures adjacent	Early to mid-20th century (circa 1920–1960)
001227	1227H	Small historic refuse deposit	Early to mid-20th century (circa 1920–1930)
006343	6343	Small prehistoric lithic flake scatter	Prehistoric
006347	6347H	Small historic refuse deposit	Mid-20th century (circa 1931)
006348	6348H	Historical occupation site including a semi-subterranean residence, a possible chicken house, an incomplete residential structure, irrigation facilities, and a scatter of refuse	Mid-20th century (circa 1931–1950)
006552	6552H	Historical former residential complex location (Doane family) and refuse scatter	Early to mid-20th century (circa 1911–1931)

Primary Number (P-36-)	Trinomial (CA-SBR-)	Site Type/Constituents	Time Period
006553	6553H	Historical occupation site including a scatter of refuse, a wood lined well, adjacent concrete slabs, and a second locus containing another foundation made of loosely laid, broken, concrete blocks	Early to mid-20th century (circa 1922–1950)
006554	6554H	Historic refuse deposit containing mostly domestic or household-related materials	Mid- to late 20th century (after circa 1960)
006555	6555H	Historical occupation complex (Barrows family) including a residence, two poultry sheds, miscellaneous outbuildings, a well, and unidentified concrete slabs	Mid-20th century (after circa 1946)
006556*	6556H	Homestead/farm complex including residence, outbuildings, small animal pen, poultry coop, reservoir, and the remains of an irrigation system; automobiles and salvaged building materials also stored on the property	Early to mid-20th century (circa 1911–1959)
006557*	6557H	Homestead complex with residence, two outbuildings, a well, and remnants of an irrigation system	Mid- to late 20th century (circa 1922–1950)
006558*	6558H	Davis/Weatherill homesteads ca 1922–1930; Evans Ranch ca 1930–1940; Lockhart Ranch ca 1940–1962; and Orita Land and Cattle/Most Ranch 1962–present	Mid-20th century (circa 1922–1950)
006571	6571H	Small historic refuse scatter with aqua glass, sanitary can, circular head light rim, and fragments of crockery	Mid- to late 20th century
006735	6735H	Small historic refuse scatter with aqua glass and sanitary cans	Mid-20th century
006873	6873H	Small historic refuse scatter containing sun colored amethyst and aqua bottle glass, porcelain ware and stone ware shards, and a flat oval crimp tobacco tin can	Early to mid-20th century

Primary Number (P-36-)	Trinomial (CA-SBR-)	Site Type/Constituents	Time Period
006874	6874H	Small historical refuse scatter	Mid-20th century
006877	6877H	Rural occupation site containing four structures	Mid- to late 20th century
006878	6878H	Rural homestead site containing 10 structures and remains of an additional structure	Mid- to late 20th century
006879	6879H	Rural homestead site containing seven structures	Mid- to late 20th century
006880	6880H	Ranch headquarters complex including large residential structure for Lockhart Ranch	Mid-20th century
006881	6881H	Rural homestead site containing 16 standing or collapsed structures	Mid- to late 20th century
006882	6882H	Residential site containing 10 standing cement block residential structures and related features; location is also possibly the earlier site of the Harper Lake school house	Mid- to late 20th century
007429*	7429H	Small historic refuse scatter containing amethyst glass shards and wire and board fragments	Early to mid-20th century
007430	7430H	Historic refuse scatter with a variety of contents including crockery, tobacco tins, matchstick filler hole cans, wire, sanitary cans, and boards	Early to mid-20th century
2084 - 99H	99H	Standing adobe structure	Early to mid-20th century (circa 1920–1940)

*Indicates sites and resources located within the Project area.

In addition to the previously recorded sites, 121 isolated archaeological finds were previously identified within the records search area. The 85 prehistoric isolates consisted of bifaces, other flaked lithics, and groundstone. The records indicate that several isolates

were collected. The 36 historic isolates included metal cans, ceramic sherds, glass fragments/bottles, and automobile parts. The records search also identified several sensitive resources near, but not within, the records search area. These resources include rock art and a site with cremations.

Archaeological Pedestrian Survey

An archaeological survey of the Project area was conducted in May and June 2009. The survey was conducted to identify possible cultural resources that may be affected by MSP project implementation. The survey used both USGS 7.5 minute topographic maps and larger scale aerial photographs. The Project area was typically surveyed by four-person crews walking at no more than 20-meter intervals. Per CEC requirements, the survey area included a 200-foot buffer around the Project area boundary. A portion of the buffer area is on lands managed by BLM. Those areas were surveyed according to BLM requirements of no more than 15-meter intervals.

Archaeological sites were defined as a cluster of four or more artifacts within an area measuring 25 by 25 meters. Identified site boundaries, features, and artifacts were recorded using GEO-XT and XH submeter Trimble Global Positioning System (GPS), and sketch maps were produced. Identified sites and isolates were recorded on State of California Department of Parks and Recreation (DPR 523) forms. Results of the survey are listed in Table 5.4-5 and discussed below.

Archaeological Survey Results

The three previously recorded resources (P-36-006556, P-36-006557, and P-36-006558) located within the archaeological survey area (Project area and 200-foot buffer) included standing structures associated with properties that were active into the 1990s. These resources were updated in the historic architecture field survey (see below). Three previously recorded archaeological sites (P-36-006553, P-36-007429, and P-36-7430) were updated as part of this archaeological survey.

The systematic pedestrian survey of the Project area and 200-foot buffer identified 24 previously unrecorded archaeological sites. Temporary site numbers (MS-) and information such as general location, content, and condition were noted, and sites were returned to for formal recordation. All 24 newly identified sites were recorded on DPR 523 forms (see Appendix D, Attachment 5). Nearly the entire survey area has been disturbed by 20th century activities that consist of agricultural and ranching operations, the construction of various farmstead buildings and irrigation systems, dirt road formation, and refuse dumping. The Project area was primarily cleared for these activities, and its peripheries contain many concentrations of modern trash scatters.

Of the 24 newly recorded sites, one site is prehistoric (MS-P-250), consisting of a sparse scatter of lithic debitage in a 36-meter by 36-meter area. Four pieces of debitage were tallied. Three of the pieces are flakes, and the other piece is a flake fragment. All are cryptochrystalline silicate (CCS), with two of the flakes being a red translucent material, the third flake a brown translucent material, and the flake fragment an opaque brown material. At least two of the pieces appeared to derive from rodent extrusions, possibly indicating a subsurface source.

One multi- (dual) component site (MS-M-225) was recorded. This site consists of a sparse, historic, refuse scatter and a single prehistoric obsidian flake, in a 37-meter by 25-meter

area. Thirteen historic refuse items were observed, the majority of which consist of cans. Historic materials include church-key-opened beverage cans. Also present are glass shards from a soda bottle, and from amber beer and wine bottles.

Twenty-two historic period sites (MS-H-001, MS-H-004, MS-H-005, MS-H-011, MS-H-013, MS-H-017, MS-H-023, MS-H-024, MS-H-025, MS-H-026, MS-H-207, MS-H-210, MS-H-211, MS-H-214, MS-H-216, MS-H-217, MS-H-218, MS-H-221, MS-H-238, MS-H-245, MS-H-246, and MS-H-252) were recorded. All of these sites contained varying quantities of debris and refuse scatters from the period of historic occupation in the early to late 20th century, but they did not appear to have a direct association with specific residential or agricultural activities. Typical historic material artifacts include church-key-opened beverage cans; knife-cut-opened, non-banded sanitary food cans; condensed milk cans; and floral print and white ware crockery fragments. Also present are various items of unknown antiquity: pieces of sheet metal; butchered bone; round wire, cut nails; milled lumber fragments; coffee cans; window glass; metal hinges; pieces of metal plumbing pipe; combustion engine parts; amber bottle shards; motor oil cans; and various metal pieces of unknown function.

The field survey also resulted in the recordation of 39 cultural resource isolates. Isolates in the survey were defined as fewer than four artifacts within 30 meters of each other. Of these 39 isolates, 21 are associated with the historic occupation of the area, 17 with the prehistoric activities in the area, and one contains artifacts from both the prehistoric and historic eras. Most of the 21 isolates associated with the historic occupation of the area consist of refuse items, most frequently, metal cans. Most of the historic items appear to date to the mid-20th century, sometime between 1925 and 1965. While the majority of the prehistoric artifacts consist of pieces of lithic tool, manufacturing waste, materials (debitage), two flaked stone biface tools, and several ground stone milling tools and tool fragments were also recorded. Only one of the prehistoric artifacts can be associated with a particular time period. An obsidian projectile point base appears to represent a style associated with an Early Archaic occupation of the area, circa 4,000 to 5,000 years ago. The prehistoric isolates tend to cluster in two distinct areas: flaked stone isolates are clustered in the northeastern corner of the project area near the playa margin and ground stone isolates are clustered near the north-central project boundary, not far from the playa margin. It is possible that isolate distributions could be indicative of the potential for subsurface sites.

Historic Architecture Field Survey

In May and June 2009, a qualified architectural historian conducted a historic architecture field survey of the Project area to determine whether historic buildings and structures were present. To comply with CEC requirements, a 0.5-mile buffer surrounding the Project area was surveyed for historic buildings and structures. Prior to the survey, available aerial photographs and historic maps of the survey area were reviewed to identify existing structures. Previously recorded resources and newly identified resources were updated or recorded on State of California Department of Parks and Recreation (DPR 523) forms. Results of the survey are listed in Table 5.4-5 and discussed below.

Historic Architectural Resources

The records search indicated that 12 sites with historic architectural resources were previously recorded within the survey area: P-36-001025, P-36-006348, P-36-6552, P-36-

006555, P-36-006556, P-36-006557, P-36-006558, P-36-006877, P-36-006880, P-36-006881, P-36-006882, and P-2084-99H. The resources ranged from homestead structures to large cattle ranching facilities. Four sites (P-36-006348, P-36-006877, P-36-006880, and P-36-006881) that had previously recorded standing structures were found to have been cleared of standing structures, due to collapse or demolition by previous owners. One site (P-36-006557) previously recorded as three buildings is currently in ruins. Another previously recorded site (P-36-006555) that contained both farming and residential buildings is in an advanced state of deterioration. One site (P-36-006882) had originally been recorded as containing several uniform residential units, but was reduced to two buildings as a result of demolition for the construction of an existing solar plant. All previously recorded sites were updated on DPR 523 Continuation Sheets (see Appendix D, Attachment 5).

One previously recorded site (P-36-001025) contained an adobe poultry structure and two other structures that appeared to date to the early to mid-20th century (circa 1920s–1930s). After relocating and investigating the site, it appeared that the same adobe structure had been recorded as a separate site (P-2084-99H). For the purposes of this study, these sites are considered one resource. The update of this record includes the entire parcel (APN 0490-121-43-0000) located in the northwest portion of Section 30. This encompasses six structures of varying ages. It does not appear to retain sufficient integrity for historical significance. This site is located within the 0.5-mile buffer, but is not within the Project area.

A farmstead containing residential and associated farming buildings (P-36-006557) dated from the mid-20th century. Also known as Hays Farm, the location of this farmstead was also indicated as the original location of the Spenker homestead, the first in the area southwest of Harper Lake. No buildings on the site appear to date from the Spenker period of the early 20th century. Although the extant reservoir may date to that time, it does not appear to be a significant resource. This site is located within the Project area.

The largest previously recorded site (P-36-006558) contained the nexus of buildings associated with the commercial operations of the hegemonic Lockhart Ranch, later the Most Ranch. Associated with farming and ranching activities from 1922 to 1990, the record identified 41 buildings and structures associated with the complex, including multiple residential buildings, a water tower, reservoirs, hay sheds, a general merchandise store, bunkhouses, warehouses, granaries, livestock pens and processing buildings, various outbuildings, garages, and an airplane hangar. The site was largely intact when it was recorded in 1990, but a large number of the buildings and structures have since been demolished. Evidence indicates that the warehouses and granaries in the feed mixer area were recently demolished. All that remains of these buildings are their concrete foundations. In addition, the Davis House and the Evans House (both present in 1990) no longer exist. The General Merchandise Store, a concrete block structure constructed in 1953, is the primary feature on the site today. The center of the Lockhart community and ranching activities, and one of the largest operations in the Mojave Desert in the 20th century, this site had widespread associations with much of the development in the region. Of the remaining buildings, only the General Merchandise Store appears to retain characteristics that represent its association with the period. The building was once the center of a vibrant desert community and it remains one of the largest buildings in the valley, clearly visible from Harper Lake Road. During the 1950s, movies were projected

onto the west wall, and the building served as a centerpiece for the community. As one of the remaining buildings of the Lockhart Ranch, the building is one of the only reminders of the past community. Although it is in a state of neglect, the building maintains sufficient integrity in appearance to demonstrate its significance as a historical resource, and is eligible for the CRHR. This significant resource is located within the Project area.

As a result of the survey, eight additional resources that were potentially historic (MS-B-1001, MS-B-1002, MS-B-1003, MS-B-1004, MS-B-1005, MS-B-1006, MS-B-1007, and MS-B-1008) were observed and recorded. These are primarily very modest residential buildings dating to the mid-20th century, with the exception of the extensive irrigation system (MS-B-1003) throughout the survey area that was integrally associated with farming activities in the Project area. Four resources, including one small residential building (MS-B-1001), a residential complex including two houses and a storage building (MS-B-1002), and a concrete block garage/storage building (MS-B-1004), appeared to be resources associated with the Lockhart/Most Ranch and date to the mid-20th century. The remaining four resources (MS-B-1005, MS-B-1006, MS-B-1007, and MS-B-1008) are all residential structures that date to the mid-20th century and are not located in the Project area. None of the newly recorded resources were determined eligible for the CRHR. The eight new resources were recorded on DPR 523 forms and evaluated for historical significance.

One historic resource (MS-B-1003) is the extensive irrigation system installed in the Project area during the 1930s and expanded throughout the 20th century. Features of this resource are an assortment of concrete stand pipes of differing sizes and dates. The exact number is unknown, but it is estimated to be 20. Most of the cylindrical standpipes are approximately 10 feet in height and approximately 2 feet in diameter. The older standpipes have connecting pipes and valves to in-line centrifugal pumps. Based on historical information, these are believed to be diesel pumps from the mid-20th century, but an exact date is unknown. The pumps are of metal construction with a bulbous cylindrical case with a curved concave cap situated on a metal stand, enclosing the entry of the pipe into the ground. Judging from metal visible on the top, they appear to be constructed of steel-reinforced concrete, which is faded and discolored from the sun. These pipes are found scattered around the site, usually adjacent to foundation ruins.

Newer standpipes are located at intervals along Harper Lake Road and Lockhart Road. These are of the same height as the older pipes, but stand on a 2-foot square concrete base and do not have the adjoining pipe or pump mechanism. The diameter of these pipes also appears to be narrower than the earlier standpipes. It is presumed that they replaced the older pipes with a technologically advanced pump system that could fit within the concrete base. The dates of these pipes are unknown. This resource has a significant association with the regional development of ranching and agriculture in the 20th century, but the resource has been altered and upgraded extensively. It does not retain sufficient integrity for listing on the CRHR.

Table 5.4-5. Cultural Resources Survey Results

P-Number/ Temporary Number	Type	Date

P-Number/ Temporary Number	Type	Date
Archaeological Resources		
P-36-006553 (CA-SBR-6553H)	Debris scatter and concrete foundation/historic occupation	Early to mid-20th century (1922–1950)
P-36-007429* (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century
P-36-007430 (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century
MS-H-001	Debris scatter/historic occupation	Mid-20th century
MS-H-004	Debris scatter/historic occupation	Mid-20th century
MS-H-005	Debris scatter/historic occupation	Mid-20th century
MS-H-011	Debris scatter/historic occupation	Mid-20th century
MS-H-013	Debris scatter/historic occupation	Mid-20th century
MS-H-017	Debris pile/historic occupation	Mid-20th century
MS-H-023	Debris scatter/historic occupation	Mid-20th century
MS-H-024	Debris scatter/historic occupation	Mid-20th century
MS-H-025	Debris scatter/historic occupation	Mid-20th century
MS-H-026	Debris dump/historic occupation	Mid-20th century
MS-H-207*	Reservoir/foundations/ debris scatter	Mid- to late 20th century
MS-H-210	Debris scatter/historic occupation	Mid-20th century

P-Number/ Temporary Number	Type	Date
MS-H-211	Debris scatter/historic occupation	Mid-20th century
MS-H-214	Debris scatter/historic occupation	Mid-20th century
MS-H-216	Debris scatter/historic occupation	Mid-20th century
MS-H-217	Debris scatter/historic occupation	Mid-20th century
MS-H-218	Debris scatter/historic occupation	Mid-20th century
MS-H-221*	Debris scatter/historic occupation	Mid-20th century
MS-M-225	Lithic artifact scatter/prehistoric occupation; Debris scatter/historic occupation	Prehistoric and Mid-20th century
MS-H-238	Debris scatter/historic occupation	Mid-20th century
MS-H-245	Debris scatter/historic occupation	Mid-20th century
MS-H-246*	Refuse dump/historic occupation	Mid-20th century
MS-P-250*	Lithic scatter/prehistoric occupation	Prehistoric
MS-H-252*	Debris scatter/historic occupation	Mid-20th century
Historic Architectural Resources		
P-36-001025/ P-2084-99H	Farming and residential complex/adobe structure	Early to mid-20th century (circa 1920–1960)
P-36-006348	Farming and residential complex	Early 20th century
P-36-006552	Farming and residential complex	Early 20th century

P-Number/ Temporary Number	Type	Date
P-36-006555	Farming and residential complex	Mid-20th century (after circa 1946)
P-36-006556*	Farming and residential complex	Early to mid-20th century (circa 1911–1959)
P-36-006557*	Farming and residential complex	Mid- to late 20th century (circa 1922–1950)
P-36-006558*	Ranching, farming, commercial, and residential complex; Lockhart General Merchandise Store	Mid-20th century (circa 1922–1950)
P-36-006877	Residential buildings	Mid-20th century
P-36-006880	Residential buildings	Mid-20th century
P-36-006881	Residential buildings	Mid-20th century
P-36-006882	Residential buildings	Mid-20th century
MS-B-1001	Residential building	Mid-20th century
MS-B-1002*	Residential buildings	Mid-20th century
MS-B-1003*	Wells/water conveyance system	Mid-20th century
MS-B-1004*	Residential/storage building	Mid-20th century
MS-B-1005	Farming and residential complex	Mid-20th century
MS-B-1006	Residential buildings	Mid-20th century
MS-B-1007	Residential buildings	Mid-20th century
MS-B-1008	Residential buildings	Mid-20th century

*Indicates sites and resources located within the Project area.

5.4.2.6 Consultation with Historical Societies and Other Interested Parties

A letter was sent to historic societies and potentially interested parties on June 1, 2009, requesting any pertinent information regarding historic or other cultural resources within the records search boundary (Project area and 1-mile buffer). Those contacted were:

- San Bernardino County Museum
- Mojave River Valley Museum
- Mojave Desert Heritage and Cultural Association and
- City of San Bernardino Historical and Pioneer Society.

To date, there have been no responses. Copies of correspondence are provided in Appendix D.

5.4.2.7 Native American Consultation

A letter was sent to the Native American Heritage Commission on June 1, 2009 requesting information on sacred lands and traditional cultural properties, and a list of Native American individuals and organizations that might have knowledge of or concerns with cultural resources within the Project area. A records search of the Sacred Lands File did not reveal any specific site information or specific sites in the Project area and 1-mile buffer. Thirteen Native American representatives were identified by NAHC (Table 5.4-6). Copies of correspondence are provided in Appendix D, Attachment 3.

Table 5.4-6. Consulting Parties and Public Participation Contacts by Affiliation

Name/Title	Affiliation	Dates of Contact	Response
Linda Otero, Director	AhaMaKav Cultural Society, Fort Mojave Indian Tribe	07/14/09 07/22/09 07/27/09 07/28/09	07/14/09 – initial letter sent. 07/22/09 – left phone message. 07/27/09 – Ms. Otero requested more information and additional time before she could respond. 07/28/09 – forwarded response to Ms. Otero.
Charles Wood, Chairperson	Chemehuevi Reservation	07/14/09 07/22/09	07/22/09 – left message. No response to date.

Name/Title	Affiliation	Dates of Contact	Response
Tim Williams, Chairperson	Fort Mojave Indian Tribe	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – spoke with Ms. Terri Medrano, Chairman's Secretary, and she requested the information packet again, which was then emailed to her.
Esadora Evanston, Environmental Coordinator	Fort Mojave Indian Tribe	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
Robert Robinson, Historic Preservation Officer	Kern Valley Indian Council	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – Mr. Robinson stated that they are a non-recognized tribe and do not have the resources to gather enough information necessary to comment on this project. They are also concerned that the project area and buffer evaluated for the project are not large enough to determine the entire effect the project would have on the area.
Ernest H. Silva, Tribal Elder	Morongo Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
Michael Contreras, Cultural Heritage	Morongo Band of Mission	07/14/09	07/14/09 – initial letter

Name/Title	Affiliation	Dates of Contact	Response
Program Manager	Indians	 07/22/09	sent. 07/22/09 – left phone message.
Joseph Hamilton, Chairman	Ramona Band of Cahuilla Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – Spoke with Chairman Hamilton's secretary and she requested the information packet again, which was then emailed to her.
John Valenzuela, Chairperson	San Fernando Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
James Ramos, Chairperson	San Manuel Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – referred cultural resource matters to Ann Brierty (see below).
Ann Brierty, Cultural Resources Coordinator	San Manuel Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
Goldie Walker	Serrano Band of Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – Ms. Walker stated she would look further into this matter and requested a copy of the technical report when completed.
Ron Wermuth	Affiliated with the Tebatulabal, Kawaiisu,	07/14/09	07/14/09 – initial letter sent.

Name/Title	Affiliation	Dates of Contact	Response
	Koso, and Yokuts	07/22/09	07/22/09 – Mr. Wermuth stated "No comment at this time."

5.4.3 Environmental Impacts

Environmental impacts are assessed for those cultural resources that have been identified as potentially significant. For a cultural resource to be significant it must be 45 or more years old and meet at least one of the significance criteria of the CRHR (Public Resources Code 5024.1), or it must satisfy the criteria of exceptional uniqueness. The CRHR states that a resource will be considered significant if it:

1) Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California;
2) Is associated with the lives of persons important to local, California, or national history;
3) Embodies distinctive characteristics of a type, period, region, or method of construction or represents the work of a master, or possesses high artistic values; or
4) Has yielded, or may be likely to yield, information important in prehistory or history.

A resource must also possess sufficient integrity to be deemed eligible for the CRHR.

In accordance with the CEQA Guidelines Section 15064.5(b), a project would have a significant impact if it results in a substantial adverse change in the significance of historical resources as follows:

- Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

The significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and justify its inclusion in the CRHR or;
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Public Resources Code Section 5020.1(k) or its identification in a historical resources survey meeting the requirements of Public Resources Code Section5024.1(g), unless the public agency review of the effects of the Project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

5.4.3.1 Construction Phase

Ground-disturbing construction activities have the potential to directly impact cultural resources by altering site integrity and the qualities that make the resources significant. The potential of ground-disturbing construction activities to impact archaeological resources is limited to those located within the Project area. Archaeological resources located in the 200-foot buffer would not be impacted. In the case of historic architectural resources, impacts can occur to the setting of a resource, even if the resource is not physically damaged.

Based on archival and survey investigations, three previously recorded archaeological sites, 24 newly identified archaeological sites, 11 previously recorded historic architectural resources, and eight newly identified historic architectural resources were inventoried for the MSP. Of these, six archaeological sites and six historic architectural resources are located within the Project area. Table 5.4-6 summarizes the Project's anticipated impacts to these resources.

Five archaeological sites inventoried for the Project have been assessed as potentially significant, but require additional investigation. Significant impacts are possible at two of these sites (MS-H-246 and MS-P-250) that are located within the Project area. Based on the surface evidence, these resources are assessed as potentially significant and subject to potential impacts from construction of the Project. One of these sites (MS-P-250) appears to qualify for the California Archaeological Resources Identification and Data Acquisition Program: Sparse Lithic Scatters (CARIDAP). Successful treatment under this program results in a "not eligible" and "no effect on historic properties" determination. Under CEQA, with implementation of mitigation measures at other sites identified in Section 5.4.4 below, potential impacts would be mitigated to a less than significant level.

Two historic architectural resources (P-36-006556 and the Lockhart General Merchandise Store) within the Project area have been assessed as potentially significant with additional investigation, and significant, respectively. The construction activities of the MSP would require the demolition of these resources, resulting in significant impacts.

In addition to the resources identified in Table 5.4-7, 39 isolated finds were encountered during the survey efforts. These include prehistoric lithics and historic period items such as metal cans. None of the isolated finds are considered significant.

Table 5.4-7. Summary of Cultural Resources Survey and Impact Assessment

P-Number/ Temporary number	Type	Date	Significance	Project Impact
Archaeological Sites				
P-36-006553 (CA-SBR-6553H)	Debris scatter and concrete foundation/historic occupation	Early to mid-20th century (1922–1950)	Potentially eligible for CRHR under Criterion 4	No impact
P-36-007429* (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century	Not significant	No impact
P-36-007430 (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century	Not significant	No impact
MS-H-001	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-004	Debris scatter/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-005	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-011	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-013	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-017	Debris pile/historic occupation	Mid-20th century	Not significant	No impact

P-Number/ Temporary number	Type	Date	Significance	Project Impact
MS-H-023	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-024	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-025	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-026	Debris dump/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-207*	Reservoir/foundations/ debris scatter	Mid- to late 20th century	Not significant	No impact
MS-H-210	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-211	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-214	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-216	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-217	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact

P-Number/ Temporary number	Type	Date	Significance	Project Impact
MS-H-218	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-221*	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-M-225	Lithic artifact scatter/prehistoric occupation; Debris scatter/historic occupation	Prehistoric and Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-238	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-245	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-246*	Refuse dump/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	Less than significant with mitigation No impact with avoidance
MS-P-250*	Lithic scatter/prehistoric occupation	Prehistoric	Potentially eligible for CRHR under Criterion 4	Less than significant with mitigation No impact with avoidance
MS-H-252*	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
Historic Architectural Resources				

P-Number/ Temporary number	Type	Date	Significance	Project Impact
P-36-001025/ P-2084-99H	Farming and residential complex/adobe structure	Early to mid-20th century (circa 1920–1960)	Not significant	No impact
P-36-006348	Farming and residential complex	Early 20th century	Demolished Potentially eligible for CRHR under Criterion 4	No impact
P-36-006552	Farming and residential complex	Early 20th century	Demolished	No impact
P-36-006555	Farming and residential complex	Mid-20th century (after circa 1946)	Not significant	No impact
P-36-006556*	Farming and residential complex	Early to mid-20th century (circa 1911–1959)	Potentially eligible for CRHR under Criteria 1 and 4	Less than significant impact with mitigation
P-36-006557*	Farming and residential complex	Mid- to late 20th century (circa 1922–1950)	Not significant	No impact
P-36-006558*	Ranching, farming, commercial, and residential complex; Lockhart General Merchandise Store	Mid-20th century (circa 1922–1950)	Eligible for CRHR under Criterion 1	Less than significant impact with mitigation
P-36-006877	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006880	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006881	Residential buildings	Mid-20th century	Demolished	No impact

P-Number/ Temporary number	Type	Date	Significance	Project Impact
P-36-006882	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1001	Residential building	Mid-20th century	Not significant	No impact
MS-B-1002*	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1003*	Wells/water conveyance system	Mid-20th century	Not significant	No impact
MS-B-1004*	Residential/storage building	Mid-20th century	Not significant	No impact
MS-B-1005	Farming and residential complex	Mid-20th century	Potentially eligible under CRHR Criterion 4	No impact
MS-B-1006	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1007	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1008	Residential buildings	Mid-20th century	Potentially eligible under CRHR Criterion 4	No impact

*Indicates sites and resources located within the Project area.

5.4.3.2 Cumulative Impacts

As required under CEQA, the impacts of the Project must be considered with reasonably foreseeable future projects in the area that may produce related or cumulative impacts. A review of the San Bernardino County Planning Department (SBCPD) website and discussions with staff showed that there are no open applications for development projects within a six-mile radius of the Project site. A review of the California Energy Commission's (CEC) siting website was conducted to identify potential cumulative projects. The nearest identified project is 43 miles away from the MSP. At that distance or greater, these projects are not considered cumulative for the cultural resource study area. Several other projects

are expected to file in late 2009, but initial data shows that these projects' locations are too distant (greater than 70 miles) to be considered for cumulative impacts. In addition to the above agencies, review of the U. S. Bureau of Land Management's (BLM's) Solar Energy Study areas indicate that areas the study area includes areas east of Barstow and are thus too distant to be considered cumulative. With no proposed projects within the vicinity, there would be no cumulative impacts to cultural resources.

5.4.4 Mitigation Measures

5.4.4.1 Construction

To mitigate potentially significant Project cultural resources to a less-than-significant level, the Applicant will implement the measures listed below.

CUL-1: If significant or potentially significant cultural resources cannot be avoided, the project owner will retain a qualified Cultural Resources Specialist to prepare and implement (1) an evaluation program in the case of potentially significant resources and (2) a Treatment Plan for the significant resources. The evaluation program would include subsurface testing, in-field recordation, and/or additional historical research as appropriate. The Treatment Plan would include protocols for affected resources including data recovery, research design, and treatment measures. The Principal Investigator for the evaluation program and Treatment Plan program will meet the minimum Principal Investigator qualifications under the Secretary of Interior's Standards and Guidelines.

CUL-2: A designated Cultural Resources Specialist will provide input to construction and operation training programs for employees to enhance awareness regarding the protection of cultural resources. The specialist will be available during construction to inspect and evaluate any finds of potentially significant buried cultural material. The Cultural Resources Specialist will coordinate with the Project owner's construction manager and environmental compliance manager to stop all work in the vicinity of the find until it can be assessed. If the discovery is determined to be not significant through consultation with CEC, work will be allowed to continue.

CUL-3: All discoveries will be documented on appropriate Department of Parks and Recreation forms (Form DPR 523) and filed with the SBAIC in Redlands, California.

CUL-4: If in consultation with the CEC a discovery is determined to be significant, a mitigation plan will be prepared and carried out in accordance with State and Federal guidelines. If the resources cannot be avoided, a data recovery plan will be developed to ensure collection of sufficient information to address archaeological or historical research questions.

CUL-5: A professional technical report will be prepared documenting assessment and data recovery investigations. The report will describe the methods and materials collected and will provide conclusions regarding the results of the investigations. The report will be submitted to the curatorial facility with the artifacts.

CUL-6: Cultural material collected as part of an assessment or data recovery mitigation will be curated at a qualified curation facility. Field notes and other pertinent materials will be curated along with the archaeological collection.

CUL-7: If human remains are encountered during construction, potentially destructive activities in the vicinity of the find will be stopped. The Cultural Resources Specialist will immediately notify the Principal Investigator, who will contact the CEC. The project owner will ensure that any such remains are treated in a respectful manner and that applicable State and Federal laws are followed. If human remains of Native American origin, associated grave goods, or objects of cultural patrimony are discovered on Federal property, the provisions of the Native American Graves Protection and Repatriation Act will be followed.

CUL-8: The project owner will provide worker environmental awareness program (WEAP) training during construction to assist in worker compliance with cultural resource protection procedures. The training will include photographs of a variety of historic and prehistoric artifacts and will include a description of the specific steps to be taken in the event of an unanticipated discovery of cultural material, including human remains.

CUL-9: Significant architectural resources should be avoided. Where impacts are unavoidable, mitigation measures should include the preparation of archival documentation and interpretation of the historical resources. The following potential mitigation measures would nominally reduce significant impacts to historical resources:

- Documentation to the standards of the Historic American Building Survey (HABS) should be prepared to provide physical descriptions of the historical resources, discuss their significance under applicable CRHR criteria, and address the historical contexts for their construction, purpose, and function. Large-format black and white photographs should be taken showing the structures in context, as well as details of architectural features. The photographs should be fully captioned and processed for archival permanence. Copies of the reports should be offered to the SBAIC and any other regional repository or organization upon which the MSP and the CEC agree.
- Physical materials from the structures that have potential for reuse should be salvaged during the demolition, if feasible. This could include the removal, relocation, and reuse of original features to a prominent location in the region.
- Interpretive materials should be prepared to provide information about the structures and their context, the history of Lockhart, and the development of ranching and agriculture in the region. This could be in the form of, but is not necessarily limited to, interpretive display panels and printed material for public distribution via any regional historical organizations.

5.4.4.2 Operations

No additional impacts to cultural resources are anticipated through operation of the MSP.

5.4.5 References

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